

AMENDMENTS TO THE SPECIFICATION

- *Please replace the paragraph spanning pages 18-19, beginning at line 30 on page 18 and ending at line 8 on page 19, with the following text:*

An “SH3” or “Src Homology 3” domain is a protein domain of generally about 60 amino acid residues first identified as a conserved sequence in the non-catalytic part of several cytoplasmic protein tyrosine kinases (e.g., Src, Abl, Lck). SH3 domains mediate assembly of specific protein complexes via binding to proline-rich peptides. Exemplary SH3 domains are represented by amino acids 137-192, 199-258, 448-505 and 832-888 of SEQ ID NO:2 and are set forth in SEQ ID Nos: 27-30. In certain embodiments, an SH3 domain interacts with a consensus sequence of RXaaXaaPXaaX6P (where X6, as defined in table 1 below, is a hydrophobic amino acid). In certain embodiments, an SH3 domain interacts with one or more of the following sequences: P(T/S)AP (SEQ ID NO: 37), PFRDY (SEQ ID NO: 38), RPEPTAP (SEQ ID NO: 39), RQGPKEP (SEQ ID NO: 40), RQGPKEPFR (SEQ ID NO: 41), RPEPTAPEE (SEQ ID NO: 42) and RPLPVAP (SEQ ID NO: 43).

- *Please replace the paragraph spanning pages 92-93, beginning at line 21 on page 92 and ending at line 10 on page 93, with the following text:*

- Construction of siRNA retroviral vectors:

hPOSH scrambled oligonucleotide (5'- CACACACTGCCG TCAACT GTTCAAGAGAC AGTTGACGGCAGTGTGTGTTTTT -3' (SEQ ID NO: 44); and 5'- AATTAAAAAACACA CACTGCCGTCAACTGTC TCTTGAACAGTTGA CGGCAGTGTGTGGGCC -3' (SEQ ID NO: 45)) were annealed and cloned into the ApaI-EcoRI digested pSilencer 1.0-US (Ambion) to generate pSIL-scrambled. Subsequently, the U6-promoter and RNAi sequences were digested with BamHI, the ends filled in and the insert cloned into the Olil site in the retroviral vector, pMSVhyg (Clontech), generating pMSCVhyg-U6-scrambled. hPOSH oligonucleotide encoding RNAi against hPOSH (5'-AACAGAGGCCTTGGAAA CCTGGAAGC TTGCAGGTTT CCAAGGCCTCTGTT -3' (SEQ ID NO: 46); and 5'- GATCAACAGAG GCCTTGGAAACCTGC AAGCTTCCAGGTTTCCAA GGCCTCTGTT -3' (SEQ ID NO: 47)) were annealed and cloned into the BamHI-EcoRI site of pLIT-U6, generating pLIT-U6 hPOSH-230. pLIT-U6 is an shRNA vector containing the human U6 promoter (amplified by PCR from

human genomic DNA with the primers, 5'-GGCCCACTAGTCA AGGTCG GGCA GGAAGA- 3' (SEQ ID NO: 48) and 5'- GCCGAATT CAAAAAGGATC CGGCGATATCCGG TGTTCGTCCTTTCCA -3' (SEQ ID NO: 49)) cloned into pLITMUS38 (New England Biolabs) digested with SpeI-EcoRI. Subsequently, the U6 promoter-hPOSH shRNA (pLIT-U6 hPOSH-230 digested with SnaBI and PvuI) was cloned into the Olil site of pMSVhyg (Clontech), generating pMSCVhyg U6-hPOSH-230.

- Please replace the text spanning pages 94-95, starting at line 24 on page 94 and ending at line 3 on page 95, with the following text:

Protein sequence: Corresponds to aa 53-888 of POSH (RING domain deleted) (SEQ ID NO: 50)

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RTLVGSGVEELPSNILLVRLLDGIKQRPWKPGPGGSGTNCNTNALRSQSSTVANCSSKDL
QSSQGGQQPRVQSWSPVVRGIPQLPCAALYNYEGKEPGDLKFSKGDIIILRRQVDENWY
HGEVNGIHGFFPTNFVQIIKPLPQPPPQCKALYDFEVKDKEADKDCLPFAKDDVLTIVIR
VDENWAEGLADKIGIFPISYVEFNAAKQLIEWDKPPVPGVDAGECSSAAQSSSTAPKH
SDTKKNTKKRHSFTSLTMANKSSQASQNRHSMEISPPVLISSNPTAAARISELSGLSCS
APSQVHISTTGLIVTPPPSSPVTGPFSTFPSPDVPYQAALGTLNPPLPPPPLLAATVLAS
TPPGATAAAAAAGMGPRPMAGSTDQIAHLRPQTRPSVYVAIYPYTPRKEDELELRKGEMF
LVFERCQDQWFKGTSMTSKIGVFPNGYVAPVTRAVTNASQAKVPMSTAGQTSRGVTMVS
PSTAGGPAQKLQNGVAGSPSVVPAAVVSAAHIQTSQAKVLLHMTGQMTVNQARNAVRT
VAAHNQERPTAAVTPIQVQNAAGLSPASVGLSHHSLASFPQAPLMPGSATHTAASISRA
SAPLACAAAAPLTPSPITSASLEAEPSGRIVTVLPGLPTSPDSASSACGNSSATKPKDKS
KKEKKGLLKLKLSGASTKRKPRVSPASPTLEVELGSAELPLQGAVGPELPPGGGHGRAGS
CPVDGDGPVTTAVAGAALAQDAFHRKASSLDSAVPIAPPPRQACSSSLGPVLNESPVVCE
RHRVVVSYPQSEAELELKEGDIVFVHKKREDGWFKGTLQRNGKTGLFPGSFVENI

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- Please replace the text spanning pages 95-101, starting at line 8 on page 95 and ending at line 21 on page 101, with the following text:

Human HERPUD1 mRNA sequence - var1 (public gi: 16507801) (SEQ ID NO: 51)

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AGAGACGTGAACGGTCGTTGCAGAGATTGCGGGCGGCTGAGACGCCGCTGCCTGGCACCTAGGAGCGCA
GCGGAGCCCCGACACCGCCGCCGCCCATGGAGTCCGAGACCGAACCGAGCCCGTCACGCTCCTGGTG
AAGAGCCCCAACCAGCGCCACCGCGACTTGAGCTGAGTGGCGACCGCGCTGGAGTGTGGCCACCTCA
AGGCCCACCTGAGCCGCGTCTACCCCGAGCGTCCGCGTCCAGAGGACCAGAGGTTAATTATTCTGGGAA
GCTGTTGTTGGATCACCAATGTCTCAGGGACTTGCTTCCAAAGGAAAAACGGCATGTTTTCATCTGGTG
TGCAATGTGAAGAGTCCTTCAAAAATGCCAGAAATCAACGCCAAGGTGGCTGAATCCACAGAGGAGCCTG
CTGGTTCTAATCGGGGACAGTATCCTGAGGATTCCTCAAGTGATGGTTAAGGCAAAGGGAAGTTCTTCG
GAACCTTTCTCCCCTGGATGGGAAAACATCTCAAGGCATCACGTTGGGTGGTTTCCATTAGACCGAGG
CCGTTTCAGAACTTCCCAATGATGGTCTCTCCTGACGTTGTAAATCAGGACCCCAACAATAAATTAC
AGGAAGGCACTGATCCTGAACTGAAGACCCCAACCACTCCCTCCAGACAGGGATGTACTAGATGGCGA
GCAGACCAGCCCCTCCTTTATGAGCACAGCATGGCTTGCTTCAAGACTTTCTTTGCCTCTCTTTCCA
GAAGGCCCCCAGCCATCGCAAACTGATGGTGTGTTGTGCTGTAGCTGTGGAGGCTTTGACAGGAATGGA

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CTGGATCACCTGACTCCAGCTAGATTGCCTCTCCTGGACATGGCAATGATGAGTTTTTAAAAAACAGTGT
GGATGATGATATGCTTTTTGTGAGCAAGCAAAAGCAGAAACGTGAAGCCGTGATACAAATTGGTGAACAAA
AAATGCCCAAGGCTTCTCATGTCTTTATCTGAAGAGCTTAAATATATACTCTATGTAGTTTAATAAGCA
CTGTACGTAGAAGGCCCTTAGGTGTTGCATGTCTATGCTTGAGGAACTTTCCAAATGTGTGTCTGCAT
GTGTGTTTTGTACATAGAAGTCATAGATGCAGAAGTGGTCTGCTGGTACGATTTGATTCTGTGGGAATG
TTAAATTACACTAAGTGTACTACTTTATATAATCAATGAAATTGCTAGACATGTTTAGCAGGACTTTT
CTAGGAAAGACTTATGTATAATTGCTTTTTAAATGCAGTGCTTTACTTTAACTAAGGGGAACCTTTGCG
GAGGTGAAAACCTTTGCTGGGTTTTCTGTCAATAAAGTTTACTATGAATGACCCTGAAAAAAAAAAAA
AA
AAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAA

Human HERPUD1 mRNA sequence - var2 (public gi: 10441910) (SEQ ID NO: 52)

GCTGTGTGGCCAGGCTTTTCTCAAACCTCTGAGGGCAAGCGATCCTCCACCTCAGCCTCCTGAGTAGC
TGGGACTACAGGCATGTGCCACTAGACCTGGCTCTAAAGACATATATGACACACGAAACCATTTATTTT
CATTTACAAATGTTTATTCACATATATGGTATTAGTATTCTAATGTAGTGATGCACTCTAAATTTGCATT
ATATTTCTAGAACATCTGAACAGAGCATAGGAAATCCCTATTTTGCCATTATCAGTTCTAACAAAAAT
CTTAAAGCACTTTATCATTTTCAATTCCTGCACTGTAATTTTTTAAATGATCAAAAACAGTATCATAC
CAAGGCTTACTTATATTGGAATACTATTTTAGAAAGTTGTGGGCTGGGTGTATTTATAAATCTTGTTGG
TCAGATGTCTGCAATGAGTAAATTTAGCACCATTATCAGGAAGCTTTCTCACCATGACAACTTCATTGG
AAGATTTTAAAGTGTAGCATACTCTAGGGAAAAATATGAATATTTAGCATCTATGTATTGAAAA
TTATGTTGAATAAATGTGCAGACTATTTTACATAACGTGCTTCTGTTTAAATTTTGTACGTTTCAGAGG
TGGGGGGTAGGAGATGTAAGCCCTTGACAGCAAAATAATTCCTTTTGCTTGATTTTACAGACAGTTGCATCA
GCTCCTTTGTTCTGTGTTTACACTTATTTAGGTGGCTGAATCCACAGAGGAGCCTGCTGGTTCTA
ATCGGGGACAGTATCCTGAGGATTCCCTCAAGTGATGGTTAAGGCAAAGGGAAGTTCTTCGGAACCTTTC
TTCCCCTGGATGGGAAAACATCTCAAGGCTGAAGCTGCCAGCAGGCATTCCAAGGCTGGGTCTCGT
TTCTCCGTTACACACCCTATGGGTGGCTTCAGCTTTCTGTTCCAGCAGATATATGCACGACAGTACT
ACATGCAATATTTAGCAGGCTGCTGCATCAGGGGCTTTGTTCCACCACCAAGTGCACAAGAGATACC
TGTGGTCTCTGCACCTGCTCCAGCCCCATTTCACAACCAAGTTTCCAGCTGAAAACCAAGCCTGCCAATCAG
AATGCTGCTCCTCAAGTGGTTGTTAATCCTGGAGCCAATCAAATTTGCGGATGAATGCACAAGGTGGCC
CTATTGTGAAGAAGATGATGAAATAAATCGAGATTGGTTGGATTGGACCTATTCAGCAGCTACATTTTC
TGTTTTTCTCAGTATCCTCTACTTCTACTCCTCCCTGAGCAGATTCCCTCATGGTCATGGGGCCACCGTT
GTTATGTACCTGCATCAGTTGGGTGGTTTCCATTTAGACCGAGGCCGGTTTCCAGAACTTCCCAAATGATG
GTCTCCTCCTGACGTTGTAAATCAGGACCCCAACAATAACTTACAGGAAGGCACTGATCCTGAACTGA
AGACCCCAACCAAGTCCCTCCAGACAGGATGTATAGTGGCGAGCAGACCCTCCCTCTTATGAGC
ACAGCATGGCTTGTCTTCAAGACTTTCTTGCCTCTCTTCTCCAGAAGGCCCCCCCAGCCATCGCAAACT
GATGGTGTGTTGTGCTGTAGCTGTTGGAGGCTTTGACAGGAATGGACTGGATCACCTGACTCCAGCTAGAT
TGCTCTCCTGGACATGGCAATGATGAGTTTTTAAAAAACAGTGTGGATGATGATATGCTTTTGTGAGCA
AGCAAAAGCAGAAACGTGAAGCCGTGATACAAATTGGTGAACAAAAATGCCCAAGGCTTCTCATGTCTT
TATTCTGAAGAGCTTTAATATATACTCTATGTAGTTTAAATAAGCACTGTACGTAGAAGGCCCTTAGGTGTT
GCATGCTATGCTTGAGGAACCTTTCCAAATGTGTGTCTGCATGTGTGTTGTACATAGAAGTCATAG
ATGCAGAAGTGGTTTCTGCTGGTACGATTGATTCTCTGTTGGAATGTTTAAATTACACTAAGTGTACTACT
TTATATAATCAATGAAATTGCTAGACATGTTTTCAGGAGCTTTCTAGGAAAGACTTATGTATAATTGC
TTTTTAAATGCAGTGCTTTACTTTAACTAAGGGGAACCTTTGCGGAGGTGAAAACCTTTGCTGGGTTTT
CTGTTCAATAAAGTTTTACTATGAATGACAAAAAAAAAAAAAAAAAAAA

Human HERPUD1 mRNA sequence - var3 (public gi: 3005722) (SEQ ID NO: 53)

GGCCACCTCAAGGCCACCTGAGCCGCTCTACCCCGAGCGTCCGCGTCCAGAGGACCAGAGGTTAATTT
ATTCTGGGAAGCTGTTGTTGGATCACCAATGTCTCAGGGACTTGCTTCCAAAGGAAAAACGGCATGTTTT
GCATCTGGTGTGCAATGTGAAGAGTCTTCAAAAATGCCAGAAATCAACGCCAAGGTGGCTGAATCCACA
GAGGAGCCTGCTGGTTCTAATCGGGGACAGTATCCTGAGGATTCTCAAGTGATGGTTTAAAGGCAAAGGG
AAGTTCTTCGGAACCTTTCTTCCCTGGATGGGAAAACATCTCAAGGCCTGAAGCTGCCAGCAGGCATT
CCAAGGCCTGGGTCTGGTTTCTCCGGTTACACACCCTATGGGTGGCTTCAGCTTTCTGGTTCCAGCAG
ATATATGCACGACAGTACTACATGCAATATTTAGCAGCCACTGCTGCATCAGGGGCTTTGTTCCACCAC
CAAGTGCACAAGAGATACCTGTGGTCTCTGCACCTGTCCAGCCCCATTTCACAACCAAGTTTCCAGCTGA
AAACAGCCTGCCAATCAGAATGCTGCTCCTCAAGTGGTTGTTAATCCTGGAGCCAATCAAATTTGCGG
ATGAATGCACAAGGTGGCTTATGTTGGAAGAAGATGATGAAATAAATCGAGATTGGTTGGATTGGACCT
ATTCAGCAGTACATTTTCTGTTTTTCTCAGTATCCTCTACTTCTACTCCTCCCTGAGCAGATTCTCAT
GGTCATGGGGGCCACCGTTGTTATGTACCTGCATCACGTTGGGTGGTTTCCATTTAGACCGAGGCCGGTT
CAGAACTTCCCAAATGATGGTCTCCTCCTGACGTTGTAAATCAGGACCCCAACAATAACTTACAGGAAG
GCACTGATCCTGAACTGAAGACCCCAACCACTCCCTCCAGACAGGGATGTACTAGATGGCGAGCAGAC
CAGCCCTCCTTTATGAGCACAGCATGGCTTGTCTTCAAGACTTTCTTGCCTCTCTTCTCCAGAAGGC
CCCCCAGCCATCGCAAACTGATGGTGTGTTGTGCTGTAGCTGTTGGAGGCTTTGACAGGAATGGACTGGAT

CACCTGACTCCAGCTAGATTGCCTCTCCTGGACATGGCAATGATGAGTTTTTAAAAACAGTGTGGATGA
TGATATGCTTTTGTGAGCAAGCAAAAGCAGAAACGTGAAGCCGTGATACAAATTGGTGAACAAAAATGC
CCAAGGCTTCTCATGTCTTTATTCTGAAGAGCTTTAATATATACTCTATGTAGTTTAAATAGCACTGTAC
GTGAAGGCCCTTAGGTGTTGCATGTCTATGCTTGAGGAACCTTTCCAAATGTGTGTGTCTGCATGTGTGT
TTGTACATAGAAGTCATAGATGCAGAAGTGGTTCTGCTGGTACGATTTGATTCTGTGTGGAATGTTTAA
TTACACTAAGTGTACTACTTTATATAATCAATGAAATTGCTAGACATGTTTGTAGCAGGACTTTTCTAGGA
AAGACTTATGTATAATTGCTTTTTTAAAAATGCAGTGCTTTACTTTAACTAAGGGGAACCTTGCAGGAGTG
AAAACCTTTGCTGGGTTTTCTGTTCAATAAAGTTTTACTATGAATGACCCTGAAAAAAAAAAAAAAAA
AAAA

Human HERPUD1 mRNA sequence - var4 (public gi: 21619176) (SEQ ID NO: 54)

CCACGCGTCCGGGTCGTTGCAGAGATTGCGGGCGGCTGAGACGCCGCTGCCTGGCACCTAGGAGCGCAG
CGGAGCCCCGACACCGCCGCGCCGCTGAGTCCGAGACCGAACCCGAGCCCGTCACGCTCCTGGTGA
AGAGCCCCAACAGCGCCACCGCACTTGAGCTGAGTGGCGACCGCGCTGGAGTGTGGGCCACCTCAA
GGCCACCTGAGCCGCGTCTACCCGAGCGTCCGCGTCCAGAGGACCAGAGGTTAATTTATTCTGGGAAG
CTGTTGTTGGATCACCATGTCTCAGGGACTTGCTTCCAAAGCAGGAAAAACGGCATGTTTTGCATCTGG
TGTGCAATGTGAAGAGTCTTCAAAAATGCCAGAAATCAACGCCAAGGTGGCTGAATCCACAGAGGAGCC
TGCTGGTTCTAATCGGGGACAGTATCCTGAGGATTCTCAAGTGATGGTTAAGGCAAAGGGAAGTTCTT
CGGAACCTTTCTCCCTGGATGGGAAAACATCTCAAGGCTGAAGCTGCCAGCAGGCATTCCAAGGCC
TGGGTCTGGTTCTCCGTTACACACCTATGGGTGGCTTCAGCTTTCTGGTTCCAGCAGATATATGC
ACGACAGTACTACATGCAATATTTAGCAGCCACTGCTGCATCAGGGGCTTTGTTCCACCACCAAGTGCA
CAAGAGATACCTGTGGTCTCTGCACCTGCTCCAGCCCTATTACAAACCAGTTTCCAGCTGAAAACCAGC
CTGCCAATCAGAATGCTGCTCCTCAAGTGGTTGTTAATCCTGGAGCCAATCAAAATTTGCGGATGAATGC
ACAAGGTGGCCCTATTGTGGAAGAAGATGATGAAATAAATCGAGATTGGTTGGATTGGACCTATTAGCA
GCTACATTTTCTGTTTTCTCAGTATCCTCTACTTCTCCTCCCTGAGCAGATTCTCATGGTCATGG
GGGACCCTGTTGTTATGTACCTGCATCAGCTTGGGTGGTTCCATTTAGACCGAGGCCGGTTTCAAGCTT
CCCAATGATGGTCTCCTCCTGACGTTGTAATCAGGACCCCAACAATACTTACAGGAAGGCAGTAT
CCTGAACTGAAGACCCCAACCACCTCCCTCCAGACAGGGATGTACTAGATGGCGAGCAGACCAGCCCT
CCTTTATGAGCACAGCATGGCTTGTCTTCAAGACTTTCTTTGCCTCTCTTCTCCAGAAGGCCCCCCAGC
CATCGCAAATGATGGTGTGTTGTGCTGTAGCTGTTGGAGGCTTTGACAGGAATGGACTGGATCACCTGAC
TCCAGCTAGATTGCCTCTCCTGGACATGGCAATGATGAGTTTTTAAAAACAGTGTGGATGATGATATGC
TTTTGTGAGCAAGCAAAGCAGAAACGTGAAGCCGTGATACAAATTGGTGAACAAAAATGCCCAAGGCTT
CTCATGCTTTTATTCTGAAGAGCTTTAATATATACTCTATGTAGTTTAAATAGCACTGTACGTAGAAGGC
CTTAGGTGTTGCTATGCTCTATGTTGAGGAACCTTTCCAAATGTGTGTGTCTGCATGTGTGTTGTACATA
GAAGTCATAGATGCAGAAGTGGTTCTGCTGGTACGATTGATTCTGTTGGAATGTTTAAATTACACTAA
GTGTACTACTTTATATAATCAATGAAATTGCTAGACATGTTTGTAGCAGGACTTTTCTAGGAAAGACTTAT
GTATAATTGCTTTTTTAAAAATGCAGTGCTTTACTTTAACTAAGGGGAACCTTGCAGGAGGTGAAAACCTTT
GCTGGGTTTTCTGTTCAATAAAGTTTTACTATGAATGACCCTGAAAAAAAAAAAAAAAA

Human HERPUD1 mRNA sequence - var5 (public gi: 14249882) (SEQ ID NO: 55)

AACGGTCGTTGCAGAGATTGCGGGCGGCTGAGACGCCGCTGCCTGGCACCTAGGAGCGCAGCGGAGCCC
GCACACCGCCGCGCCGCTGAGATCCGAGACCGAACCCGAGCCCGTCACGCTCCTGGTGAAGAGCCCC
AACAGCGCCACCGCGACTTGAGCTGAGTGGCGACCGCGCTGGAGTGTGGGCCACCTCAAGGCCACCC
TGAGCCGCGTCTACCCGAGCGTCCGCGTCCAGAGGACCAGAGGTTAATTTATTCTGGGAAGCTGTTGTT
GGATCACCAATGTCTCAGGACTTGCTTCCAAAGCAGGAAAAACGGCATGTTTTGCATCTGGTGTGCAAT
GTGAAGAGTCTTCAAAAATGCCAGAAATCAACGCCAAGGTGGCTGAATCCACAGAGGAGCCTGCTGGTT
CTAATCGGGGACAGTATCCTGAGGATTCTCAAGTGATGGTTAAGGCAAAGGGAAGTTCTTCGGAACCT
TTCTTCCCTGGATGGGAAAACATCTCAAGGCCTGAAGCTGCCAGCAGGCATTCCAAGGCCTGGGTCTCT
GGTTTTCTCCGGTTACACACCTATGGGTGGCTTCAGCTTTCTGGTTCCAGCAGATATATGCACGACAGT
ACTACATGCAATATTTAGCAGCCACTGTGCATCAGGGGCTTTTGTTCACCACCAAGTGCACAAGAGAT
ACCTGTGGTCTCTGCACCTGCTCCAGCCCTATTACAAACCAGTTTCCAGCTGAAAACCAGCCTGCCAAT
CAGAATGCTGCTCCTCAAGTGGTTGTTAATCCTGGAGCCAATCAAAATTTGCGGATGAATGCACAAGGTG
GCCCTATTGTGGAAGAAGATGATGAAATAAATCGAGATTGGTTGGATTGGACCTATTACAGCAGCTACATT
TTCTGTTTTTCTCAGTATCCTCTACTTCTACTCCTCCCTGAGCAGATTCTCATGGTCATGGGGGCCACC
GTGTTATGTATGCTACCTGTCATCGTTGGGTGGTTCCATTAGACCGAGGCCGGTTTCAAGCTTCCAAATG
ATGGTCTCTCCTGACGTTGTAAATCAGGACCCCAACAATACTTACAGGAAGGCAGTATCCTGAAAC
TGAAGACCCCAACCCTCCCTCCAGACAGGGATGTACTAGATGGCGAGCAGACCAGCCCTCCTTTATG
AGCACAGCATGGCTTGTCTCAAGACTTTCTTTGCCTCTCTTCTCCAGAAGGCCCCCCAGCCATCGCAA
ACTGATGGTGTGTTGTGCTGTAGCTGTTGAGGCTTTGACAGGAATGGACTGGATCACCTGACTCCAGCTA
GATTGCCTCTCCTGGACATGGCAATGATGAGTTTTTAAAAACAGTGTGGATGATGATATGCTTTTGTGA
GCAAGCAAAAGCAGAAACGTGAAGCCGTGATACAAATTGGTGAACAAAAATGCCCAAGGCTTCTCATGT
CTTTATTCTGAAGAGCTTTAATATATACTCTATGTAGTTTAAATAGCACTGTACGTAGAAGGCCTTAGGT

GTTGCATGTCTATGCTTGAGGAACCTTTTCCAAATGTGTGTGTCTGCATGTGTGTTTGTACATAGAAGTCA
TAGATGCAGAAGTGGTTCTGCTGGTACGATTTGATTCCCTGTGGAATGTTTAAATTACACTAAGTGTACT
ACTTTATATAATCAATGAAATTGCTAGACATGTTTTAGCAGGACTTTTCTAGGAAAGACTTATGTATAAT
TGCTTTTTTAAATGCAGTGCTTTACTTTTAACTAAGGGGAACCTTTGCGGAGGTGAAAACCTTTGCTGGGT
TTTCTGTTCAATAAAGTTTACTATGAAAAAATAAAAAAAAAA

Human HERPUD1 mRNA sequence - var6 (public gi: 12652674)(SEQ ID NO: 56)

GAACTGTCTGTCAGAGATTGCGGGCGGCTGAGACGCCGCTGCCTGGCACCTAGGAGCGCAGCGGAGCC
CCGACACCGCCGCCGCCCATGGAGTCCGAGACCGAACCCGAGCCCGTCACGCTCCTGGTGAAGAGCCC
CAACCAGCGCCACCGGACTTGGAGCTGAGTGGCGACCGCGCTGGAGTGTGGGCCACCTCAAGGCCCAC
CTGAGCCGCTCTACCCCGAGCGTCCGCGTCCAGAGGACCAGAGGTTAAATTTATTCTGGGAAGCTGTTGT
TGGATCACCAATGTCTCAGGGAAGTGTCTCCAAAGCAGGAAAAACGGCATGTTTTGCATCTGGTGTGCAA
TGTGAAGAGTCTTCAAAAATGCCAGAAATCAACGCCAAGGTGGCTGAATCCACAGAGGAGCCTGCTGGT
TCTAATCGGGGACAGTATCCTGAGGATTCCTCAAGTGATGGTTTAAAGGCAAAGGGAAGTTCTTCGGAACC
TTTCTTCCCTGGATGGGAAAAATCTCAAGGCCTGAAGCTGCCAGCAGGCATTCCAAGCCCTGGGTCC
TGGTTTCTCCGTTACACACCTATGGGTGGCTTCAGCTTTCCTGGTTCAGCAGATATATGCACGACAG
TACTACATGCAATATTTAGCAGCCACTGCTGCATCAGGGGCTTTTGTTCACCACCAAGTGCACAAGAGA
TACCTGTGGTCTCTGCACCTGCTCCAGCCCTATTACACAACAGTTTCCAGCTGAAAACAGCCTGCCAA
TCAGAATGCTGCTCCTCAAGTGGTTGTTAATCCTGGAGCCAATCAAAATTTGCGGATGAATGCACAAGGT
GGCCCTATTGTGAAGAAGATGATGAAATAAATCGAGATTGGTTGGATTGGACCTATTACAGCAGCTACAT
TTTCTGTTTTTCTCAGTATCCTCTACTTCTCTCCTCCCTGAGCAGATTCCCTCATGGTCATGGGGGCCAC
CGTTGTTATGTACCTGCATCACGTTGGGTGGTTTCCATTTAGACCGAGGCCGGTTTCAGAACTTCCCAAAT
GATGGTCTCCTCCTGACGTTGTAAATCAGGACCCCAACAATAACTTACAGGAAGGCACTGATCCTGAAA
CTGAAGACCCCAACCACCTCCTCCAGACAGGGATGTACTAGATGGCGAGCAGACCAGCCCTCCTTTAT
GAGCACAGCATGGCTTGTCTTCAAGACTTCTTTGCCTCTCTTCTCCAGAAGGCCCCCCAGCCATCGCA
AACTGATGGTGTGTTGTGCTGTAGCTGTTGGAGGCTTTGACAGGAATGGACTGGATCACCTGACTCCAGCT
AGATTGCCTCTCCTGGACATGGCAATGATGAGTTTTTAAAAACAGTGTGGATGATGATATGCTTTTGTG
AGCAAGCAAAAGCAGAAACCTGAAGCCGTGATACAAATGGTGAACAAAAAATGCCCAAGGCTTCTCATG
TCTTTATTCTGAAGAGCTTAAATATATACTCTATGTAGTTTAAATAAGCACTGTACGTAGAAGGCCTTAGG
TGTTGCATGTCTATGCTTGAGGAACCTTTCCAAATGTGTGTGTCTGCATGTGTGTTTGTACATAGAAGTC
ATAGATGCAGAAGTGGTTCTGCTGGTACGATTTGATTCCCTGTTGGAATGTTTAAATTACACTAAGTGTAC
TACTTTATATAATCAATGAAATTGCTAGACATGTTTTAGCAGGACTTTTCTAGGAAAGACTTATGTATAA
TTGCTTTTTAAATGCAGTGCTTTACTTTAACTAAGGGGAACCTTTGCGGAGGTGAAAACCTTTGCTGGG
TTTTCTGTTCAATAAAGTTTACTATGAATGAAAAAATAAAAAAAAAA

Human HERPUD1 mRNA sequence - var7 (public gi: 9711684)(SEQ ID NO: 57)

AGAGACGTGAACTGTCTGTCAGAGATTGCGGGCGGCTGAGACGCCGCTGCCTGGCACCTAGGAGCGCA
GCGGAGCCCCGACACCGCCCGCGCCCATGGAGTCCGAGACCGAACCCGAGCCCGTCACGCTCCTGGTG
AAGAGCCCCAACCGAGCGCCACCGGACTTGGAGCTGAGTGGCGACCGCGCTGGAGTGTGGGCCACCTCA
AGGCCCACCTGAGCCGCGTCTACCCGAGCGTCCGCGTCCAGAGGACCAGAGGTTAAATTTATTCTGGGAA
GCTGTTGTTGGATCACCAATGTCTCAGGGAAGTGTCTCCAAAGCAGGAAAAACGGCATGTTTTGCATCTG
GTGTGCAATGTGAAGAGTCTTCAAAAATGCCAGAAATCAACGCCAAGGTGGCTGAATCCACAGAGGAGC
CTGCTGGTTCTAATCGGGGACAGTATCCTGAGGATTCCTCAAGTGATGGTTTAAAGGCAAAGGGAAGTTCT
TCGGAACCTTTCTTCCCTGGATGGGAAAAATCTCAAGGCCTGAAGCTGCCAGCAGGCATTCCAAGGC
CTGGGTCTGGTTTCTCCGTTACACACCTATGGGTGGCTTCAGCTTTCCTGGTTCAGCAGATATATG
CAGCAGACTACTACATGCAATATTTAGCAGCCACTGCTGCATCAGGGGCTTTTGTTCACCACCAAGTGC
ACAAGAGATACTGTGGTCTCTGCACCTGCTCCAGCCCTATTACACAACAGTTTCCAGCTGAAAACAG
CCTGCCAATCAGAATGCTGCTCCTCAAGTGGTTGTTAATCCTGGAGCCAATCAAAATTTGCGGATGAATG
CACAAGGTGGCCCTATTGTGAAGAAGATGATGAAATAAATCGAGATTGGTTGGATTGGACCTATTACAG
AGCTACATTTTCTGTTTTTCTCAGTATCCTCTACTTCTACTCCTCCCTGAGCAGATTCCCTCATGGTCATG
GGGGCCACCGTTGTTATGTACCTGCATCACGTTGGGTGGTTTCCATTTAGACCGAGGCCGGTTTCAGAACT
TCCCAAATGATGGTCTCCTCCTGACGTTGTAAATCAGGACCCCAACAATAACTTACAGGAAGGCACTGA
TCTTGAACTGAAGACCCCAACCACCTCCTCCAGACAGGGATGTACTAGATGGCGAGCAGACCAGCCCC
TCCTTTATGAGCACAGCATGGCTTGTCTTCAAGACTTCTTTCCTCTCTTCTTCCAGAAGGCCCCCCAG
CCATCGCAAACTGATGGTGTGTTGTGCTGTAGCTGTTGGAGGCTTTGACAGGAATGGACTGGATCACCTGA
CTCCAGCTAGATTGCCTCTCCTGGACATGGCAATGATGAGTTTTTAAAAACAGTGTGGATGATGATG
CTTTTGTGAGCAAGCAAAAGCAGAAACCTGAAGCCGTGATACAAATGGTGAACAAAAAATGCCCAAGGC
TTCTCATGTCTTTATTCTGAAGAGCTTTAATATATACTCTATGTAGTTTAAATAAGCACTGTACGTAGAAG
GCCTTAGGTGTGTCATGTCTATGCTTGAGGAACCTTTTCCAAATGTGTGTGTCTGCATGTGTGTTTGTACA
TAGAAGTCATAGATGCAGAAGTGGTTCTGCTGGTACGATTTGATTCCCTGTTGGAATGTTTAAATTACACT
AAGTGTACTACTTTATATAATCAATGAAATTGCTAGACATGTTTTAGCAGGACTTTTCTAGGAAAGACTT
ATGTATAATTGCTTTTTTAAATGCAGTGCTTTACTTTAACTAAGGGGAACCTTTGCGGAGGTGAAAACCT

TTGCTGGGTTTTCTGTTCAATAAAGTTTTACTATGAATGACCCTG

Human HERPUD1 mRNA sequence - var8 (public gi: 3005718) (SEQ ID NO: 58)

GACGTGAACGGTCGTTGCAGAGATTGCGGGCGGCTGAGACGCCGCTGCCTGGCACCTAGGAGCGCAGCG
GAGCCCCGACACCGCCGCCGCCATGGAGTCCGAGACCGAACCCGAGCCCGTCACGCTCCTGGTGAAG
AGCCCCAACAGCGCCACCGCGACTTGGAGCTGAGTGGCGACCGCGGCTGGAGTGTGGGCCACCTCAAGG
CCCACCTAGCGCGCTCTACCCCGAGCGTCCGCGTCCAGAGGACCAGAGGTTAATTTATTCTGGGAAGCT
GTTGTTGGATCACCAATGTCTCAGGGACTTGCTTCCAAAGCAGGAAAAACGGCATGTTTTGCATCTGGTG
TGCAATGTGAAGAGTCCTTCAAAAATGCCAGAAATCAACGCCAAGGTGGCTGAATCCACAGAGGAGCCTG
CTGGTTCTAATCGGGGACAGTATCCTGAGGATTCTCAAGTGATGGTTTAAGGCAAAGGGAAGTTCTTCG
GAACCTTTCTCCCCTGGATGGGAAAAACATCTCAAGGCCTGAAGCTGCCAGCAGGCATTCCAAGGCCTG
GGTCTGGTTTCTCCGGTTACACACCCTATGGGTGGCTTCAGCTTTCCTGGTTCAGCAGATATATGCAC
GACAGTACTACATGCAATATTTAGCAGCCACTGCTGCATCAGGGGCTTTTGTTCACCACCAAGTGCACA
AGAGATACTGTGGTCTCTGCACCTGCTCCAGCCCTATTCAACAACAGTTTCAGCTGAAAACCGCCAT
GCCAATCAGAATGCTGCTCCTCAAGTGGTTGTTAATCCTGGAGCCAATCAAAATTTGCGGATGAATGCAC
AAGGTGGCCCTATTGTGGAAGAAGATGATGAAATAAATCGAGATTGGTTGGATTGGACCTATTTCAGCAGC
TACATTTTCTGTTTTTCTCAGTATCCTCTACTTCTACTCCTCCCTGAGCAGATTCTCATGGTCATGGGG
GCCACCGTTGTTATGTACCTGCATCACGTTGGGTGGTTTCCATTTAGACCGAGGCCGGTTCAGAACTTCC
CAAATGATGGTCTCTCTGACGTTGTAATCAGGACCCCAACAATAACTTACAGGAAGGCACTGATCC
TGAAACTGAAGACCCCAACCCTCCCTCCAGACAGGATGTACTAGATGGCGAGCAGACCAGCCCCCTCC
TTTATGAGCACAGCATGCTGTCTTCAAGACTTTCTTGGCTCTCTTCTTCCAGAAGGCCCCCCAGCCA
TCGCAAACTGATGGTGTGTTGTGCTGTAGCTGTTGGAGGCTTTGACAGGAATGGACTGGATCACCTGACTC
CAGCTAGATTGCCTCTCCTGGACATGGCAATGATGAGTTTTTAAAAAACAGTGTGGATGATGATATGCTT
TTGTGAGCAAGCAAAAGCAGAAACGTGAAGCCGTGATACAAATTGGTGAACAAAAAATGCCAAGGCTTC
TCATGTCTTTATTCTGAAGAGCTTTAATATATACTCTATGTAGTTTAATAAGCACTGTACGTAGAAGGCC
TTAGGTGTTGCATGTCTATGCTTGAGGAACTTTCCAAATGTGTGTGTCTGCATGTGTGTTGTACATAG
AAGTCATAGATCAGAAAGTGGTTCTGCTGGTACGATTGATTCTGTTGGAATGTTTAAATTACACTAAG
TGTACTACTTTATATAATCAATGAAATTGCTAGACATGTTTGTAGCAGGACTTTTCTAGGAAAGACTTATG
TATAATTGCTTTTTTAAATGCAGTGCTTTACTTTAACTAAGGGGAACTTTGCGGAGGTGAAAACCTTTG
CTGGGTTTTCTGTTCAATAAAGTTTTACTATGAATGACCCTGAAAAAAAAAAAAAAAAAAAAA

Human HERPUD1 mRNA sequence - var9 (public gi: 285960) (SEQ ID NO: 59)

CGTGAACGGTCGTTGCAGAGATTGCGGGCGGCTGAGACGCCGCTGCCTGGCACCTAGGAGCGCAGCGGA
GCCCCGACACCGCCGCCGCCATGGAGTCCGAGACCGAACCCGAGCCCGTCACGCTCCTGGTGAAGAG
CCCCAACAGCGCCACCGCGACTTGGAGCTGAGTGGCGACCGCGGCTGGAGTGTGGGCCACCTCAAGGCC
CCCTGAGCCGCGTCTACCCGAGCGTCCGCGTCCAGAGGACCAGAGGTTAATTTATTCTGGGAAGCTGT
TGTTGGATCACCAATGTCTCAGGGACTTGCTTCCAAAGCAGGAAAAACGGCATGTTTTGCATCTGGTGTG
CAATGTGAAGAGTCCTTCAAAAATGCCAGAAATCAACGCCAAGGTGGCTGAATCCACAGAGGAGCCTGCT
GGTTCTAATCGGGGACAGTATCCTGAGGATTCTCAAGTGATGGTTTAAGGCAAAGGGAAGTTCTTCGGA
ACCTTTCTTCCCCTGGATGGGAAAAACATCTCAAGGCCTGAAGCTGCCAGCAGGCATTCCAAGGCCTGGG
TCCTGGTTTCTCCGGTTACACACCCTATGGGTGGCTTCAGCTTTCCTGGTTCAGCAGATATATGCACGA
CAGTACTACATGCAATATTTAGCAGCCACTGCTGCATCAGGGGCTTTTGTTCACCACCAAGTGCACAAG
AGATACTGTGGTCTCTGCACCTGCTCCAGCCCTATTCAACAACAGTTTCAGCTGAAAACCGCCTGC
CAATCAGAATGCTGCTCCTCAAGTGGTTGTTAATCCTGGAGCCAATCAAAATTTGCGGATGAATGCACAA
GGTGGCCCTATTGTGGAAGAAGATGATGAAATAAATCGAGATTGGTTGGATTGGACCTATTTCAGCAGCTA
CATTTTCTGTTTTTCTCAGTATCCTCTACTTCTACTCCTCCCTGAGCAGATTCTCATGGTCATGGGGGC
CACCGTTGTTATGTACCTGCATCACGTTGGGTGGTTTCCATTTAGACCGAGGCCGGTTCAGAACTTCCCA
AATGATGGTCTCTCTGACGTTGTAATCAGGACCCCAACAATAACTTACAGGAAGGCACTGATCCTG
AAACTGAAGACCCCAACCCTCCCTCCAGACAGGATGTACTAGATGGCGAGCAGACCAGCCCCCTCCTT
TATGAGCACAGCATGGCTTGCTTCAAGACTTTCTTTGCCTCTCTTCTTCCAGAAGGCCCCCCAGCCATC
GCAAACTGATGGTGTGTTGTGCTGTAGCTGTTGGAGGCTTTGACAGGAATGGACTGGATCACCTGACTCCA
GCTAGATTGCCTCTCCTGGACATGGCAATGATGAGTTTTTAAAAAACAGTGTGGATGATGATATGCTTTT
GTGAGCAAGCAAAAGCAGAAACGTGAAGCCGTGATACAAATTGGTGAACAAAAAATGCCAAGGCTTCTC
ATGTGTTTATTCTGAAGAGCTTTAATATATACTCTATGTAGTTTAATAAGCACTGTACGTAGAAGGCCTT
AGGTGTTGCATGTCTATGCTTGAGGAACTTTCCAAATGTGTGTGTCTGCATGTGTGTTGTACATAGAA
GTCATAGATGCAGAAGTGGTTCTGCTGGTAAGATTTGATTCTGTTGGAATGTTTAAATTACACTAAGTG
TACTACTTTATATAATCAATGAAATTGCTAGACATGTTTGTAGCAGGACTTTTCTAGGAAAGACTTATGTA
TAATTGCTTTTTTAAATGCAGTGCTTTACTTTAACTAAGGGGAACTTTGCGGAGGTGAAAACCTTTGCT
GGGTTTTCTGTTCAATAAAGTTTTACTATGAATGACCCTG

Human HERPUD1 mRNA sequence - var10 (public gi: 7661869) (SEQ ID NO: 60)

GACGTGAACGGTCGTTGCAGAGATTGCGGGCGGCTGAGACGCCGCTGCCTGGCACCTAGGAGCGCAGCG

GAGCCCCGACACCGCCGCCGCCATGGAGTCCGAGACCGAACCCGAGCCCGTCACGCTCCTGGTGAAG
 AGCCCCAACCCAGCGCCACCGCGACTTGGAGCTGAGTGGCGACCGCGGCTGGAGTGTGGGCCACCTCAAGG
 CCCACCTGAGCCGCGTCTACCCCGAGCGTCCGCGTCCAGAGGACCAGAGGTTAATTTATTTCTGGGAAGCT
 GTTGTGGATACCAATGTCTCAGGGACTTGCTTCCAAAGCAGGAAAAACGGCATGTTTTGCATCTGGTG
 TCGAATGTGAAGAGTCTTCAAAAATGCCAGAAATCAACGCCAAGGTGGCTGAATCCACAGAGGAGCGCTG
 CTGGTTCTAATCGGGGACAGTATCCTGAGGATTCTCAAGTGATGGTTTTAAGGCAAAGGGAAGTTCTTCG
 GAACCTTTCTCCCCTGGATGGGAAAACATCTCAAGGCCTGAAGCTGCCCAGCAGGCATTCCAAGGCCTG
 GGTCTGGTTCTCCGTTACACACCCTATGGGTGGCTTCAGCTTTCTGGTTCCAGCAGATATATGCAC
 GACAGTACTACATGCAATATTTAGCAGCCACTGCTGCATCAGGGGCTTTTGTTCACCACCAAGTGCACA
 AGAGATACCTGTGGTCTCTGCACCTGCTCCAGCCCCTATTCAACACAGTTTCCAGCTGAAAACAGCCT
 GCCAATCAGAATGCTGCTCCTCAAGTGGTTGTAAATCCTGGAGCCAATCAAAATTTGCGGATGAATGCAC
 AAGGTGGCCCTATTGTGGAAGAAATGATGAATAAATCGAGATTGGTTGGATTGGACCTATTACAGCAGC
 TACATTTTCTGTTTTTCTCAGTATCCTCTACTTCTACTCCTCCCTGAGCAGATTCTCATGGTCATGGGG
 GCCACCGTTGTTATGTACCTGCATCACGTTGGGTGGTTTCCATTTAGACCGAGGCGGTTCCAGAACTTCC
 CAAATGATGGTCTCTCTGACGTTGTAAATCAGGACCCCAACAATAACTTACAGGAAGGCACTGATCC
 TGAAACTGAAGACCCCAACCACCTCCCTCCAGACAGGGATGTAAGATGGCGAGCAGACCAGCCCCCTCC
 TTTATGAGCACAGCATGGCTTGTCTTCAAGACTTTCTTTGCTCTCTTCTTCCAGAAGGCCCCCAGCCA
 TCGCAAATGATGGTGTGTTGTGCTGTAGCTGTTGGAGGCTTTGACAGGAATGGACTGGATCACCTGACT
 CAGCTAGATTGCCTCTCTGACATGGCAATGATGAGTTTTTAAAAAACAGTGGATGATGATATGCTT
 TTGTGAGCAAGCAAAAGCAGAAACGTGAAGCCGTGATACAAATGGTGAACAAAAAATGCCCAAGGCTTC
 TCATGTCTTTATTCTGAAGAGCTTTAATATATACTCTATGTAGTTTAATAAGCACTGTACGTAGAAGGCC
 TTAGGTGTTGCATGTCTATGCTTGAGGAACCTTTCCAAATGTGTGTCTGCATGTGTGTTGTACATAG
 AAGTCATAGATGCAGAAGTGGTCTGCTGGTACGATTTGATTCCTGTTGGAATGTTTAAATTACACTAAG
 TGTACTACTTTATATAATCAATGAAATTGCTAGACATGTTTTCAGGAGCTTTTCTAGGAAAGACTTATG
 TATAATTGCTTTTAAAAATGCAGTGCTTTACTTTAAACTAAGGGGAACCTTGCGGAGGTGAAAACCTTTG
 CTGGGTTTTCTGTTCAATAAAGTTTTACTATGAATGACCTTGAAAAAAGGAAAAAAGGAAAAAAGGAAAAA

Human HERPUD1 Protein sequence - var1 (public gi: 16507802) (SEQ ID NO: 61)

MESETEPEPVTLLVKSPNQHRDLLESGDRGWSVGHKHAHLSRVYPERPRPEDQRLIYSGKLLLDHQCLR
 DLLPKKRVHLVLCNVKSPSKMPEINAKVAESTEEPAGSNRGQYPEDSSSDGLRQREVLRLNLSSPGWEN
 ISRHHVWGFPFRPRPVQNFNDGPPPDVVNQDPNNNLQEGTDPETEDPNHLPDRDVLDDGEQTSFSFMST
 AWLVFKTFFASLLPEGPPAIAN

Human HERPUD1 Protein sequence - var2 (public gi: 10441911) (SEQ ID NO: 62)

MQYLAATAASGAFVPPPSAQEI PVVSAPAPAPIHNQFPAENQPANQNAAPQVVVNPGANQNLRMNAQGGP
 IVEEDDEINRDWLDWTYSAATFSVFLSILYFYSSLSRFLMVMGATVVMYLHHVWGFPFRPRPVQNFNDG
 PPPDVVNQDPNNNLQEGTDPETEDPNHLPDRDVLDDGEQTSFSFMSTAWLVFKTFFASLLPEGPPAIAN

Human HERPUD1 Protein sequence - var3 (public gi: 3005723) (SEQ ID NO: 63)

GHLKAHLSRVYPERPRPEDQRLIYSGKLLLDHQCLRDLLEPKKRVHLVLCNVKSPSKMPEINAKVAEST
 EEPAGSNRGQYPEDSSSDGLRQREVLRLNLSSPGWENISRPEAAQAFQGLGPGFSGYTPYGWLQLSWFQQ
 IYARQYYMQYLAATAASGAFVPPPSAQEI PVVSAPAPAPIHNQFPAENQPANQNAAPQVVVNPGANQNL
 MNAQGGPIVEEDDEINRDWLDWTYSAATFSVFLSILYFYSSLSRFLMVMGATVVMYLHHVWGFPFRPRPV
 QNFNDGPPPDVVVNQDPNNNLQEGTDPETEDPNHLPDRDVLDDGEQTSFSFMSTAWLVFKTFFASLLPEG
 PPAIAN

Human HERPUD1 Protein sequence - var4 (public gi: 7661870) (SEQ ID NO: 64)

MESETEPEPVTLLVKSPNQHRDLLESGDRGWSVGHKHAHLSRVYPERPRPEDQRLIYSGKLLLDHQCLR
 DLLPKQEKRVHLVLCNVKSPSKMPEINAKVAESTEEPAGSNRGQYPEDSSSDGLRQREVLRLNLSSPGWE
 NISRPEAAQAFQGLGPGFSGYTPYGWLQLSWFQQIYARQYYMQYLAATAASGAFVPPPSAQEI PVVSAP
 APAPIHNQFPAENQPANQNAAPQVVVNPGANQNLRMNAQGGPIVEEDDEINRDWLDWTYSAATFSVFLS
 ILYFYSSLSRFLMVMGATVVMYLHHVWGFPFRPRPVQNFNDGPPPDVVVNQDPNNNLQEGTDPETEDPNH
 LPDRDVLDDGEQTSFSFMSTAWLVFKTFFASLLPEGPPAIAN

Rat HERPUD1 mRNA sequence (public gi: 16758961) (SEQ ID NO: 65)

AAGACACCAAGTGTCTGTTTGGGGTCGACACGGCTGCTCGCCGCGTTCGGCATCCCTGAGCGCAGT
 CGAGCCTCCAGCGCCGACAGATGGAGCCCGAGCCACAGCCCGAGCCGTCACGCTGCTGGTGAAGAGCC
 CCAATCAGCGCCACCGCGACTTGGAGCTGAGTGGCGACCGCGGTTGGAGTGTGAGTCGCCTCAAGGCCCA
 CCTGAGCCGAGTCTACCCCGAACCGCCGCGCCAGAGGACCAGAGGTTAATTTATTCTGGGAAGCTGCTG
 TTGGATCACCAATGTCTCCAAGACTTGCTTCCAAAGCAGGAAAAGCGACATGTTTTGCACCTCGTGTGCA

ATGTGAGGAGTCCCTCAAAAAAGCCAGAAGCCAGCACAAAGGGTGCTGAGTCCACAGAGCAGCCGGACAA
 CACTAGTCAGGCACAGTATCCTGGGGATTCTCAAGCGATGGCTTACGGGAAAGGGAAGTCCCTTCGGAAC
 CTTCCTCCCTCTGGATGGGAGAACGTCTCTAGGCCTGAAGCCGTCCAGCAGACTTTCCAAGGCCTCGGGC
 CCGGCTTCTCTGGCTACACCACCTACGGGTGGCTGCAGCTCTCTGGTTCCAGCAGATCTATGCAAGACA
 GTACTACATGCAATACTTTGGCTGCCACTGCTGCTTCAGGAGCTTTTGGCCCTACACCAAGTGACAAGAA
 ATACCTGTGGTCTCTACACCGGCTCCCGCCCTATACACAACCAGTTTCCGGCAGAAAACCAGCCGGCCA
 ATCAGAATGCAGCCGCTCAAGCGGTTGTTAATCCCGGAGCCAATCAGAACTTGCGGATGAATGCACAAGG
 CGGCCCTCTGGTGAAGAAGATGATGAGATAAACCGAGACTGGTTGGATTGGACCTACTCAGCAGCGACA
 TTTTCCGTTTTCCTCAGCATTTCTTTACTTCTACTCCTCCCTGAGCAGATTCTCATGGTCATGGGCGCCA
 CCGTAGTCATGTACCTGCACCACGTCCGGTGGTTTCCATTAGACAGAGGCCAGTTCAGAACTTCCCAGA
 TGACGGTCCCCCTCAGGAAGCTGCCAACCAGGACCCCAACAATAACCTCCAGGGAGGTTTGACCCCTGAA
 ATGGAAGACCCCAACCGCTCCCGCTAGGCGGTGAAGTGCTGGACCTGAGCATACCAGCCCCCTCGTTCA
 TGAGCACAGCATGGCTAGTCTTCAAGACTTTCTTTGCCTCTCTTCTCCGGAAGGCCACCAGCCCTAGC
 AAAGTATGAGCCCTGTGCTCTGTTGCTGGAGGCTTTCACAGCTTGGACTGGATCGTCCCTGGCGTGGGA
 CTCGAGAGAGTCATTGAAACCCACAGGATGACGATGTGCTTCTGTGCCAAGCAAAAGCACAACTAAGA
 CATGAAGCCGTGGTACAACTGAACAGGGCCCCCTCATGTCGTTATTCTGAAGAGCTTTAATGTATACTGT
 ATGTAGTCTCATAGGACTGTAAACAGAAGGCCAGGGTCGCATGTTCTGCCTGAGCACCTCCCAGACG
 TGTGTGCATGTGTGCCGTACATGGAAGTCATAGACGTGTGTGCATGTGTGCTCTACATGGAAGTCATAGA
 TCGAGAAACGGTTCTGCTGGTTTCGATTTGATTCTGTTGGAATGTTGCAATTACACTAAGTGTACTACTT
 TATATAATCAGTGAAGTGTAGACATGTTAGCAGGACTTTTCTAGGAGAGACTTATTGTATCATTTGCTTT
 TAAAACGCAGTGCTTACTTACTGAGGGCGGCGACTTGGCACAGGTAAAGCCTTTGCCGGGTTTTCTGTT
 CAATAAGTTTTTGCTATGAACGACAAAAA

Rat HERPUD1 Protein sequence (public gi: 16758962) (SEQ ID NO: 66)

MEPEPQPEPVTLLVKSPNQRHDLLESGDRGWSVSRKLAHLSRVYPERPRPEDQRLIYSGKLLLDHQCLQ
 DLLPKQEKRHVHLVLCNVRSPPSKKPEASTKGAESTEOPDNTSQAQYPGDSSDGLRERREVLRLNPPSGWE
 NVSRPEAGVQTFQGLPGFSGYTYGWLQLSWFQIYARQYMQYLAATAASGAFGTPSAQEIPVVSSTP
 APAPIHNQFPAENQPANQNAQAQAVVNPANQNLRMNAQGGPLVEEDEINRDWLDWTYSAATFSVFLSI
 LYFYSSLSRFLMVMGATVVMYLHHVWGFPRQRPVQNFDDGPPQEAANQDPNNNLQGGLDPEMEDPNRL
 PVGREVLDPHTSPSFMSTAWLVFKTFASLLPEGPPALAN

Mouse HERPUD1 mRNA sequence (public gi: 11612514) (SEQ ID NO: 67)

AAAGACGCCAAGTGTGCTTGTGTGGTCTCAGACGGCTGCGTCGCCGCCGTTTCGGCATCCCTGAGCGCAG
 TCGAGCCGCCAGCGACGACAGATGGAGCCGAGCCACAGCCCGAGCCGGTCACGCTGCTGGTGAAGAT
 CCCAATCAGCGCCACCGCGACTTGGAGCTGAGTGGCGACCGCAGTTGGAGTGTGAGTCGCCTCAAGGCC
 ACCTGAGCCGAGTCTACCCCGAGCGCCCGCTCCAGAGGACCAGAGGTTAATTTATTCTGGGAAGCTGCT
 GTTGGATCACCAGTGTCTCCAAGATTTGCTTCCAAAGCAGGAAAAGCGACATGTTTTGCACCTTGTGTGC
 AATGTGAAGAATCCCTCCAAAATGCCAGAAACCAGCACAAAGGGTGCTGAATCCACAGAGCAGCCGGACA
 ACTCTAATCAGACACAGCATCCTGGGGACTCCTCAAGTGATGGTTTACGGCAAAGAGAAGTTCTTCGGAA
 CCTTTCTCCCTCCGGATGGGAGAACATCTCTAGGCCTGAGGCTGTCCAGCAGACTTTCCAAGGCCTGGGG
 CCTGGCTTCTCTGGCTACACAACGTATGGTGGCTGCAGCTCTCTGGTTCCAGCAGATCTATGCAAGGC
 AGTACTACATGCAATACTTAGCTGCCACTGCTGCATCAGGAACCTTTGTCCCGACACCAAGTGACAAGA
 GATACCTGTGGTCTCTACACCTGCTCCGGCTCCTATACACAACCAGTTTCCGGCAGAAAACCAGCCGGCC
 AATCAGAATGCAGCTGCTCAAGCGGTTGTCAATCCCGGAGCCAATCAGAACTTGCGGATGAATGCACAAG
 GTGGCCCCCTGGTGGAGGAAGATGATGAGATAAACCGAGACTGGTTGGATTGGACCTATTCGCAGCGAC
 GTTTTCTGTTTTCTCAGCATCCTTTACTTCTACTCCTCGCTGAGCAGATTTCTCATGGTCATGGGTGCC
 ACTGTAGTCATGTACCTGCACCACGTCCGGTGGTTTCCGTTTCAGACAGAGGCCAGTTCAGAACTTCCCGG
 ATGATGGTGGTCCCTGAGATGCTGCGCAACCAGGACCCCAACAATAACCTCCAGGGAGGTATGGACCCAGA
 AATGGAAGACCCCAACCGCTCCCCCAGACCGCAAGTGCTGGACCTGAGCACACCAGCCCCCTCGTTT
 ATGAGCACAGCATGGCTAGTCTTCAAGACTTTCTTTGCCTCTCTTCTCCAGAAGGCCACCAGCCCTAG
 CCAACTGATGGCCCTTGTGCTCTGTGCTGGTGGCTTTGACAGCTCGGACTGGATCGTCTGGCTCCGGCT
 CCTTTTCTCCCTGGCGTGGACTCGACAGAGTCATTGAAACCCACAGGATGACATGTGCTTCTGTGCC
 AAGCAAAAGCACAACTAAGACATGAAGCCGTGGTACAACTGAACAGGGCCCCCTCATGTCGTTATTCTG
 AAGAGCTTTAATGTATAGTATGTAGTTTATAGGCACTGTAAGCAGAAGGCCAGGGTCGCATGTTCT
 GCCTGAGCACTCCCGAGATGCTGTGCTGATGTGCTGTACATGGAAGTCATAGACGTGTGTGCATGTGT
 GCTCTACATGGAAGTCATAGATGCAGAAACGGTCTGCTGGTTCGATTTGATTCTGTTGGAATGTTCAA
 ATTACACTAAGTGTACTACTTTATATAATCAGTGAATTGCTAGACATGTTAGCAGGACTTTTCTAGGAGA
 GACTTATGTATAATTGCTTTTAAAATGCAGTGCTTTCTTTAAACCGAGGGTGGCGACTTGGCAGAGGT
 AAAACCTTTGCCGAGTTTTCTGTTCAATAAAGTTTTGCTATGAATGACTGT

Mouse HERPUD1 Protein sequence (public gi: 11612515) (SEQ ID NO: 68)

MEPEPQPEPVTLLVKSPNQHRDLELSGDRSWSVSRLKAHLSRVYPERPRPEDQRLIYSGKLLLDHQCLQ
 DLLPKQEKRHVLHLVCNVKNPSKMPETSTKGAESTECPDQNSNQTQHPGSSSDGLRQREVLRLNLSPSGWE
 NISREAVQQTQGLGPGFSGYTTYGWLQLSWFQQIYARQYMQYLAATAASGTFVPTPSAQEI PVVSTP
 APAPIHNQFPAENQPANQNAQAQAVVNPANQNLRMNAQGGPLVEEDDEINRDWLDWTYSAATFSVFLSI
 LYFYSSLRFLMVMGATVVMYLHHVGVFPFRQRPVQNFDDGGPRDAANQDPNNNLQGGMDPEMEDPNRL
 PPDREVLDPHTSPSPFMSTAWLVFKTFFASLLPEGPPALAN

- *Please replace the paragraph spanning pages 101-102, beginning at line 31 on page 101 and ending at line 2 on page 102, with the following text:*

- Cell culture and transfection:

HeLa SS6 were kindly provided by Dr. Thomas Tuschl (the laboratory of RNA Molecular Biology, Rockefeller University, New York, New York). Cells were grown in Dulbecco's modified Eagle's medium (DMEM) supplemented with 10% heat-inactivated fetal calf serum and 100 U/ml penicillin and 100 µg/ml streptomycin. For transfections, HeLa SS6 cells were grown to 50% confluency in DMEM containing 10% FCS without antibiotics. Cells were then transfected with the relevant double-stranded siRNA (50-100nM) (HERPUD1: 5'-GGGAAGUUCUUCGGAACCUdTdT-3' (SEQ ID NO: 69) and 5'-dTdTCCCUUCAAGAAGCCUUGGA-5' (SEQ ID NO: 70)) using lipofectamin 2000 (Invitrogen, Paisley, UK). A day following the initial transfection cells were split 1:3 in complete medium and co-transfected 24 hours later with HIV-1NLenv1 (2 µg per 6-well) (Schubert et al., J. Virol. 72:2280-88 (1998)) and a second portion of double-stranded siRNA.

- *Please replace the text on page 105, lines 1-21, with the following text:*

Construction of shRNA retroviral vectors- hPOSH scrambled oligonucleotide (5'-CACACACTGCCGTCAACTGTTCAAGAGACAGTTGACGGCAGTGTGTGTTT TTT-3' (SEQ ID NO: 44); and 5'-AATTAAAAACACACACTGCCGTCAACTGTCTCTTGAACAGTTGACGGCAGTGTGTGGGCC-3' (SEQ ID NO: 45)) were annealed and cloned into the ApaI-EcoRI digested pSilencer 1.0-U6 (Ambion, Inc.) to generate pSIL-scrambled. Subsequently, the U6-promoter and RNAi sequences were digested with BamHI, and blunted by end filling. The insert was cloned into the OsiI site in the retroviral vector, pMSCVhyg (BD Biosciences Clontech), generating pMSCVhyg-U6-scrambled. The hPOSH oligonucleotide encoding RNAi against hPOSH (5'-AACAGAGGCCTTGGAAACCTGGAAGCTTGCAGGTTTCCAAGGCCTCTGTT-3' (SEQ ID NO: 46); and

5'-GATCAACAGAGGCCTTGGAAACCTGCAAGCTTCCAGGTTTCCAAGGCCTCTGTT-3' (SEQ ID NO: 47) were annealed and cloned into the BamHI-EcoRV site of pLIT-U6, generating pLIT-U6 hPOSH-230. The pLIT-U6 is an shRNA vector containing the human U6 promoter (amplified by PCR from human genomic DNA with the primers, 5'-GGCCCACTAGTCAAGGTCGGGCAGGAAGA-3' (SEQ ID NO: 48) and 5'-GCCGAATTCAAAAAGGATCCGGCGATATCCGGTGTTCGTCCTTTCCA-3' (SEQ ID NO: 49)) cloned into pLITMUS38 (New England Biolabs, Inc.) digested with SpeI-EcoRI. Subsequently, the U6 promoter-hPOSH shRNA (pLIT-U6 hPOSH-230 digested with SnaBI and PvuI) was cloned into the OsiI site of pMSCVhyg (BD Biosciences Clontech) generating pMSCVhyg U6-hPOSH-230.